Newsletter of the North American Mycological Association

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Ron Spinosa, NAMA Cultivation Committee Chairman, shows off some oyster mushrooms he grew.

Attention Cultivators!

A NAMA Mushroom Cultivation Group is now up and running on Yahoo! Groups. Check it out at http://groups.yahoo.com/group/NAMA_ mushroom_ cultivation.

This site, intended for use by NAMA members and members of affiliated mycological societies, will serve as a forum for mushroom cultivators or those who have an interest in mushroom cultivation. Web site visitors can post articles, ask questions, and share helpful hints, new techniques, photos, and any other information that would be useful for mushroom cultivators.

Chairman Ron Spinosa says, "We hope you'll join this group. Let us know what mushrooms you are cultivating, your level of cultivation experience, and what information you would like to see on this site."

[*See page 15 for more of examples of cultivated mushrooms.*]

NAMA Foray '05: Wisconsin!

For the first time Wisconsin will host a NAMA Foray, and excitement is running high.

Through the generous invitation of Dr. Tom Volk, the NAMA 2005 Annual Foray will be held on the campus of the University of Wisconsin at La Crosse on July 21–24, 2005. The opportunity to collect in the flood plains of the great Mississippi River is very special, and to hunt on the many bluffs and in the valleys of this area is a rare treat.

This part of Wisconsin is unique in several ways. It was not scoured by glaciers, thus it became a refugium for fungi and plants that are no longer found in the upper Midwest. Additionally, it boasts an entire 100-acre forest of the American chestnut tree. This may well be the only chance we will ever have to visit these magnificent trees, since they continue to be invaded by the chestnut blight.

The foray habitats are varied, and most are short distances from campus, so there will be more foraging and less time spent in travel.

We feel extremely fortunate to have lined up as Principal Mycologist Dr. Andrew Methven, who has an extensive knowledge of the region's fungi. Dr. Tom Volk will serve as Host Mycologist, and we expect to host some mycologists from other countries who may bring us up to date on their areas of expertise.

There also will be several workshops for those of us who enjoy hands-on experiences.

When we had students in the past, they never failed to jazz up the proceedings. Since we believe it is part of our mission to nurture the next generation of mycologists, we have instituted a reduced registration for mycology students. This is yet another first for NAMA.

The University of Wisconsin will offer amenities and adjustments similar to those that we have become accustomed to over the last few years when living the student lifestyle. We will have breakfast and lunch in the student cafeteria but will enjoy the banquet hall for our evening meal and the following program.

We hope to have almost all of our other programs and the mushrooms display in one building. In addition, we will be housed in just one dormitory, which features refrigerators in each room and a large comfortable downstairs area for our socializing. As in most colleges, bathrooms are in the halls. Dormitory facilities do not include elevators or air conditioning.

Additional rooms have been reserved in two downtown hotels on

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PRESIDENT'S MESSAGE

Winter is upon us in full force. The warm, wet days of December produced an unusual number of fungi, at least for my wintertime hunting. They're gone now, though, and I'll just have to sit back and wait for morel season or maybe concentrate on fishing more.

Things are coming together nicely for the NAMA Foray at the University of Wisconsin–La Crosse July 21–24, 2005. The University is located on the Mississippi River in western Wisconsin. This area was not scraped bare by the glaciers that covered much of Wisconsin. In addition to hunting the hills and valleys in the area, we will be treated to the sight of a forest of American chestnut that is only now beginning to succumb to the blight. What a rare opportunity!

For those of you interested in cultivation, please give the NAMA Web site a look. Our new Cultivation Committee Chairman, Ron Spinosa, has begun a Yahoo! group for NAMA members and members of affiliated mycological societies. The group has grown rapidly, and the site is a great location for posting articles, asking questions and sharing hints, techniques, and other information. The URL for the group is http://groups.yahoo.com/groupNAMA_mushroom_cultivation.

Happy hunting out there this morel season, but don't forget that you're not alone. Take this from someone who has been struck by a timber rattler while hurrying to get to that next morel. Pay attention, be careful, or better yet just call me and let me know where the morels are so you won't be in any danger! —*Ike*

A cultivated Stropharia ruguso-annulata (*see article on page 1*).
Photo by R. Vandiver

Moving?

Please send your new address, ***two weeks*** before you move, to

Ann Bornstein
NAMA Membership Secretary
336 Lenox Avenue
Oakland, CA 94610-4675
<Membership@namyco.org>

Otherwise—you may not be getting your newsletter for a while. Each issue, several *Mycophiles* are returned as undeliverable because of no forwarding address on file. NAMA is charged ***seventy cents*** for each returned or forwarded newsletter.

NAMA is a 501(c)(3) charitable organization. Contributions to support the scientific and educational activities of the Association are always welcome and may be deductible as allowed by law. Gifts of any amount may be made for special occasions, such as birthdays, anniversaries, and for memorials.

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Send contributions to
Judith McCandless, Treasurer
330 Wildwood Place
Louisville, KY40206-2523
<judithmc@iglou.com>

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Web site: ***www.namyco.org***

Isaac Forester, NAMA President
P.O. Box 1107
North Wilkesboro, NC 28659-1107
<mycoCPA@aol.com>

Judy Roger, Executive Secretary
6615 Tudor Court
Gladstone, OR 97027-1032
<ExecutiveSec@namyco.org>
<judyr@hevanet.com>

Britt Bunyard, Content Editor
W184 N12633 Fond du Lac Avenue
Germantown, WI 53022
<bbunyard@wi.rr.com>

Judith Caulfield, Production Editor
927 Lansing Drive
Mt. Pleasant, SC 29464
<jpendle@cchat.com>

Three Exotic Mexican Forays Planned for 2005

Now in its sixth year of organizing mushrooming adventures "south of the border," Mexican Mushroom Tours announces three special week-long forays in verdant Mexico. The excursions are run by NAMA member Gundi Jeffrey and her husband Erik Purre, both fungi-enthusiasts from Canada but residents in Mexico since 1997.

The tours have a group limit of 18, are all-inclusive, and offer good accommodations, fine food and beverages, and a wealth of opportunity to collect, study, and learn about the local fungi. Leading bilingual Mexican mycologists will be our field leaders and give presentations in their areas of expertise.

But the sights, sounds, and excitement of friendly, fascinating Mexico are also an enriching part of these fungi-oriented travel experiences. Choose from three distinctly diverse regions, each featuring places that are off the beaten tourism path.

Below are highlights; find the full details on www.mexmush.com.

The Copper Canyon Mushroom Expedition: July 24–31

Experience the Bolete-rich Tarahumara mountains of Chihuahua. Fascinating local color and culture, awe-inspiring scenery, and a journey on the world-renowned Chepe train along the canyon rim just to reach another foray location.

Tour fee: U.S.$1,575.00 per person, double occupancy.

The Tlaxcala Mushroom Foray: August 28–September 4

In the central highlands, foray locations include the pine-covered slopes of long-dormant La Malinche volcano and the mixed forests of Tlaxcala's misty northern regions. Visits to indigenous villages and exhaciendas and delicious dinners developed especially for the tour.

Tour fee: U.S.$1,475.00 p/p d.o.

The Veracruz Fungi Exploration: October 16–23

Exploring seaside jungle, coffee, and citrus plantations and mountain habitats in a region where more than 2,000 mushroom species have been described. An action-filled week experiencing the colorful ambience, archeology, indigenous culture, and fabulous seafood cuisine of vibrant Veracruz.

Tour fee: U.S.$1,495.00 p/p d.o.

For more information contact the tour organizers, Erik and Gundi, at <gundi@mexmush.com> or visit www.mexmush.com.

28th Clark Rogerson Foray Moodus, Connecticut *August 25–28*

This gathering of friends is returning to Cave Hill, a small, comfortable resort located within easy driving distance of the Salmon River State Forest and six other state parks. Last year over 300 species were collected, and baskets were overflowing with choice edibles.

Chief Mycologist Gary Lincoff, Dr. Sam Ristich, Dr. Roz Lowen, Sandy Sheine, and Leon Shernoff, editor of *Mushroom the Journal of Wild Mushrooming*, will be leading walks, giving presentations, and conducting mushroom ID sessions.

Other activities include all-day swimming, evening programs, and mycophagy. A variety of gourmet dishes will be prepared by our CIA-trained chef, Keith Davis. (Last year's menu featured Chanterelle and Black Trumpet Quiche, Black Trumpet Bisque, Chicken Mushroom Tempura Nuggets, sautéed mixed boletes, sautéed *Lactarius hygrophoroides*, and sliced heirloom tomatoes with fresh mozzarella & fresh basil, drizzled with pesto sauce. Chardonnay, White Zinfandel and Merlot wines helped to aid digestion and foster conversation.)

Contact Don Shernoff at <donshernoff@yahoo.com> or call (914) 761-0332.

Check out this new Web site: *www.nemf.org*

Gary Lincoff's Beginners Page—an Advanced Page will be added in the very near future—includes a list of books every beginner should own, a list of mushrooms every beginner should know, and keys and instructions for their use and for making spore prints.

There is also an illustrated list of poisonous mushrooms and symptoms when they are eaten, next to their edible look-alikes, with line drawings by Bunji Tagawa (the late illustrator for the *Scientific American* and creator of the NAMA logo) and photos by Gary.

Moreover, Gary has created a collection of pages for the website called "The Illustrated Mushroom Year," which shows the commonly found species in seasonal arrangements.

In addition, there are documents on how to collect, on mushroom dyes (from Susan Hopkins), on photography, scanning, and, yes, on mycophagy, with contributions from John Plischke III and Elinor Shavit. We must educate our taste buds, after all!

To be sure, this is the homepage of the Northeast Mycological Federation, but many fungi have been traveling east and north in the last few decades, so even western and southern mycophiles will find much of the information gathered here of interest. Visit early and often!

—Ursula Hoffmann and Sandy Sheine

FUNGI IN THE NEWS

From the Editor

OK, folks, for those of you wondering where "Fungi in the News" went last issue, my apologies, but that issue was stuffed. Because of the two-month hiatus, my stack of magazines and journals awaiting review has grown so tall that I fear it may topple over and bury me!

I want to express my sincere thanks to those who have sent me kind words of praise (or gentle criticisms) over the past year. It keeps me going and inspires me to do better.

Also, thanks to all who kindly contributed a story and/or photos for publication—it makes my job a lot easier! Also making my job easier (and a lot more entertaining) are all the wacky news clippings, cartoons, beautiful postcards, and mycophilic stationery that has found its way to me over the past year. Thanks again (you know who you are)!

Despite it being very c-c-cold and snowy in my part of the country, it seems that mushrooms have been making the headlines elsewhere over the past several months, so we'll get right to mushrooms and human disease, then turn our attention to a newly emerging plant disease (that's right, *another one!*), on to some pricey mushrooms, some really old fungi, and finish with a wrap-up of what's in the latest journals. —*Britt*

Letter to the Editor . . . and Anyone with Knowledge of Mushroom Worker's Lung Disease

Dear Sir: In THE MYCOPHILE Nov./Dec. 2004, you review a paper related to the cause of mushroom workers' lung disease. How can I find out about this condition?

I'm just now coming out of a prolonged bout with what I believe to be an allergic pneumonitis, possibly induced by exposure to massive amounts of fungus in partially composted peatmoss/soil mixture—a compacted, dry mass (nearly 1 cu. yd.) that I broke up manually to work it into the vegetable bed, under great clouds of "dust." The planting mix came out of a container that had held a large camellia bush for about 18 months. I emptied the container after a brown slimemold had developed at the interface of dirt and stem, as well as a "coverlet" of dark reddish-brown scleroderma (?) about 2.5 cm. diameter, very firm bodies, with innumerable little ones coming up through the top layer, the whole mess tightly held together by tough mycelium. I dried a couple of these but can't identify them. The one whole fruitbody was clean and white. At the time of this occurrence, Houston had experienced weeks of soaking rains, near 100% humidity, and exceedingly high mold counts.

As a person with multiple food and environmental allergies, I am familiar with allergy-induced throat and sinus conditions that mimic infections. However, pneumonitis is a new experience. It was painful (breathing, coughing) and draining.

Any lead you can give me will be much appreciated.

Sincerely yours,

Anneliese Unterharnscheidt
<agunter@wt.net>

Woman Dies after Eating Wild Mushrooms in California

A 70-year-old woman is dead and three other people were sickened after eating poisonous mushrooms they picked in Alameda County, CA. The victims reportedly consumed a species of *Amanita* mushroom on Thanksgiving Day; all four were hospitalized two days later.

The West Coast has seen some extremely wet weather this season, and it reportedly has produced an explosion of mushrooms. Despite frequent warnings about picking and consuming wild mushrooms, there were more than 900 cases of mushroom poisoning reported in California last year.

Mushroom Deaths in Japan Prompts Warnings

After numerous poisonings this past year Japanese authorities have warned people with kidney problems to stay away from a variety of wild mushroom.

The health ministry has asked regional governments to issue warnings about angel wings, known locally as *sugihiratake,* a small white oyster mushroom, until research is conducted about potential dangers, according to Kyodo News (Japan) and Agence France-Presse (France). In all, 19 deaths nationwide were attributed to eating this mushroom in the latter half of 2004.

Officials said that earlier in the year 11 people fell ill with feverish symptoms and three of them died in Niigata Prefecture, some 200 kilometers (125 mi.) northeast of Tokyo, two weeks after eating the mushroom. Reportedly, all those afflicted had a history of kidney trouble or were undergoing dialysis; the victims' ages ranged from the 50s to 80s.

Two more people in their 60s or 70s died of a similar fever in October in neighboring Yamagata Prefecture. Both were on dialysis, and at least one of the two was confirmed to have eaten the same type of mushroom.

In November two more individuals, a male in his 20s and a woman in her 50s, died in Akita Prefecture. Like the patients in previous cases, the two individuals suffered renal problems and had reportedly eaten wild sugihiratake mushrooms before exhibiting symptoms.

Mushrooms are a staple of the Japanese diet, amd many people are unconcerned about eating mushrooms found in the wild. What's leaving everyone puzzled about this recent spate of poisonings is that *sugihiratake* is a type of mushroom that is commonly collected and widely regarded as safe to eat.

Farmers in Midwest Face Onslaught of Soybean Rust

Just about every news service in the Midwest is warning of the impending outbreak of a new plant disease set to appear for the first time this spring. Soybean rust is currently found only in the Deep South.

The disease is caused by *Phakopsora pachyrhiza,* a potentially devastating airborne fungus that can kill a soybean plant in less than 10 days. Agriculture experts say that just about the only thing that could stop the rust from making its way up into the Midwest, where much of the U.S. soybean crop is grown, is the winter weather, which can kill the spores. Other than that, experts say the best course for farmers to take is to treat their fields with fungicide, either as a preventive measure, or following first signs of infection.

However, fungicides aren't cheap; treatment typically costs about $25 an acre. Currently, fungicides are currently the only weapon for fighting the disease because resistant soybean varieties haven't been developed.

U.S. agricultural officials and researchers have been preparing for soybean rust for years. The disease has appeared in all other major soybean growing countries. The fungus was first identified in 1902. Experts say Ivan and perhaps other hurricanes may have carried soybean rust spores from Brazil to southern states late this summer. The disorder was first found in Louisiana and has since turned up in Mississippi, Alabama, Georgia, Florida, Arkansas and Missouri.

Most experts feel that soybean rust will not be a yearly problem because the disease requires rainy weather. Hot, dry weather seems to inhibit the disease. Soybean rust spores can survive a milder southern winter on host plants such as kudzu, but they can't make it through a northern winter. That provides some protection to the Midwest states that are the nation's largest soybean producers—Illinois, Iowa, and Minnesota—and perhaps states farther south.

In order for new outbreaks to happen, spores have to blow north every year. In years when outbreaks do occur, the spores are likely to arrive later in the season when soybean plants aren't so vulnerable to yield losses. Researchers at several universities and the USDA are developing a monitoring system for the soybean belt to track the movement of the disease so that they can advise farmers when they should apply preventive fungicides.

A news article in the December 3, 2004 issue of the journal *Science* (pages 1672–73) provides some background, along with photos of leaf symptomology, spores, and maps for the disease's current epicenter.

Would You Pay $50,000 for a Mushroom?

Well, someone did! And to be precise, it was $52,000 for a single white truffle.

A London restaurant dished out a record $52,000 for a 2.4-pound Italian white truffle during a charity auction in Tuscany, regional officials said recently, according to the Associated Press and the Italian news agency Agenzia Nazionale Stampa Associata. The restaurant Zafferano outbid other buyers to take home the delicacy that was found near a village west of Florence. The auction, held in a castle in northwestern Italy, raised a total of $103,700 for charities in the United States, Italy, and Britain.

Regular readers of The Mycophile will recall that the previous record paid was for a white truffle, about the same size, that sold at auction for $41,000 to New York restaurateur Francesco Giambelli, owner of Giambelli 50th Restaurant on New York's East Side.

Incidentally, Italy's white truffles sell for around 5 to10 times the price of France's black variety.

And speaking of truffles . . .

If you don't subscribe to Condé Nast's *Traveler* magazine, you may want to visit your local library to check the November 2004 issue. The article "Heart of Darkness" chronicles a rabid truffle gastronome's autumnal odyssey through southern France and Monaco during the black truffle season. The author describes a visit to a truffle market, as well as a farm where truffles are found through the help of a dog with a keen nose. (The farmer, who wished to remain anonymous for tax purposes, sells them at the back door of the local restaurant.)

The article isn't for those weak of constitution—nor for the hungry. Who among us can imagine being served a sandwich made from "stacked fat truffle slices"? Each extravagant meal is described in detail, with each dish—from appetizer to dessert—centered on the abundant use of the prized black fungus. That's correct, I said dessert! The author went crazy for vanilla ice cream with a truffled caramel sauce, which he was served at more than one location!

Sounds like a plan!

Feel like growing your own mushrooms at home? Or need a good mushroom soup recipe? Then look no further than the October/November 2004 issue of *Mother Earth News*. Information on growing cultivated mushrooms from kits or cultures, resources, and even tips on making a living growing mushrooms (plus several good photos and illustrations) is all right there (pages 50–57). The cooking section is on pages 116–17.

The October 2004 issue of *Vegetarian Times* (page 104) also features tips on mushroom cookery, along with an interesting story of the author's childhood memories of hunting mushrooms (inky caps) in a suburb of New York City.

From the BBC . . .

"Ancient fungus revived in lab." According to the BBC News, a team of Indian researchers claims to possess the oldest known fungi that will grow on a nutrient medium in the lab. Researchers from the National Institute of Oceanography in Goa, India, have been taking sea

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Fungi in the News, continued from page 5

bed soil cores from a depth of nearly 6,000 meters in the Indian Ocean's Chagos Trench—one of the deepest regions in the Indian Ocean.

The scientists took great pains to ensure that no modern-day fungi had contaminated their materials. They report that the fungi were cultured from sediments that are between 180,000 and 430,000 years old!

The fungus turns out to be *Aspergillus sydowii,* a commonly extant soil inhabitant worldwide. The researchers speculate that the microbes may be blown off the land into the sea, where they sink to the bottom and are covered up by deep-sea sediments. (Or not. See article on diseases of marine corals and sea fans, below.)

It's a fascinating story but not entirely surprising. Similar ages have been attributed to fungi found in deep ice cores taken from glaciers (Ma, Rogers, et al., 2000. *Mycologia* 92: 286–95). Scott Rogers, of Bowling Green State University, even hypothesizes that melting glacial ice may be a source of "new" (actually very old) pathogenic viruses of humans, including the new strains of influenza that annually afflict mankind. Wow!

And now, a synopsis of the latest journals from the mycological world . . .

In a recent issue of *Fungal Genetics and Biology* (41: 872-876) Nik Money, author of *Mr. Bloomfield's Orchard* and *Carpet Monsters and Killer Spores* [reviewed in this issue], and others provide biochemical evidence to explain the convergent evolution of true fungi (or Eumycota) and the straminopiles (organisms also known as Oomycota and formerly judged to be true fungi).

Now considered a separate kingdom, straminopiles look just like any other fuzzy aseptate mold, hence their age-old classification as such. Examples include *Allomyces* spp. and the infamous *Phytophthora* spp. Because of numerous differences (chemistry, DNA, cell wall construction, and others), the straminopiles are accepted as polyphyletic (i.e., they do not share a common ancestor) with the Eumycota.

According to Money, convergent evolution is to blame. It seems that the same forces that drove hyphal types of fungi (including chytrids, zygomycetes, ascomycetes, and basidiomycetes) to look and act as they do (basically, they have mycelial forms and grow invasively within their food source, which may include a living host) drove members of the Oomycota to look and behave similarly. Nik's group found that members of all the above groups produce hyphae that can exert forces up to two atmospheres as their tips extend!

◆

From *Mycological Research* (108[9]: 1089–96) comes a report of work showing that some soil fungi are attracted to low-level ionizing radiation.

You heard me right! Nelli Zhdanova and colleagues have isolated and analyzed about 2,000 strains of soil fungi from 200 species (representing 98 genera) over the past 15 years at the Chernobyl Atomic Energy Station in the Ukraine.

Not surprisingly, many of the isolates examined have incurred altered genetic composition as a result of exposure. But what was surprising was that some fungi (including species of *Penicillium*, *Cladosporium*, and *Paecilomyces*) were "capable of growing into and decomposing 'hot particles'" and other organic material at the site.

To see if fungal growth was toward the radioactivity or merely the organic compounds, the researchers conducted controlled experiments in the lab. With many of the fungal strains investigated, the attraction was merely a source of low-level beta or gamma radiation. Of course, it would seem that fungi involved with the decomposition of radioactive materials must be resistant to ionizing radiation; currently the entire phenomenon is largely unknown. What is clear is that this work could lead to future methods of bioaccumulation and/or bioremediation of radioactively contaminated soils.

◆

By now, everyone has heard of the near-worldwide plight of marine corals and sea fans. Science slowly has been shedding light on the causes of the widespread "bleaching" and subsequent die-offs. It turns out that infectious diseases may also play a role in this disorder, previously thought to be a result of increased ultraviolet light or the warming of the seas, or both. With regards to sea fans, the culprit has been determined to be a pathogenic fungus!

But that's just the beginning of the story. In a recent issue of the journal *The American Naturalist* (164: S52–63), Kiho Kim and C. Drew Harvell report on the "Rise and Fall of a Six-Year Coral-Fungal Epizootic" wherein they document a steep decline of sea fan corals throughout the Florida Keys (more than 50% in some areas), followed recently by a cessation of the outbreak.

Strangely enough, the causative agent (identified in the late 1990s by David Geiser, now at Penn State, among others) is none other than *Aspergillus sydowii,* a common terrestrial pathogen of plants and vertebrate animals. As it is not known to sporulate in marine water, it is believed to be a newly emerged disease.

The two obvious questions: where did it come from, and why did the epidemic come to an end? There are a number of theories for the source of the aspergillosis, including spore-laden soils being carried across the ocean from northern Africa. Periodic warming of sea water may leave the corals more susceptible, too. No one is certain why the outbreak has abated; Kim and

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Carpet Monsters and Killer Spores: A Natural History of Toxic Mold, by Nicholas P. Money. Oxford and New York: Oxford University Press, 2004. 200 pages; 10 color illus., 10 halftones & line illus. 5-1/2 x 8-1/4. $24.95 (hard cover). ISBN 0195172272

When first we met Nik Money, mycologist at Miami University (the one in Ohio), he was closeted in a backyard shed writing *Mr. Bloomfield's Orchard* (reviewed in THE MYCOPHILE 44:3, May/June 2003), accompanied by visions of Michelle Pfeiffer. Apparently, he found life in a shed to his liking, as he returned to it, "a couple of years older, definitely not wiser" and now accompanied by visions of Nicole Kidman, to write about the killer mold crisis (or is it?). His account is lively and liberally spiced with his often irreverent humor.

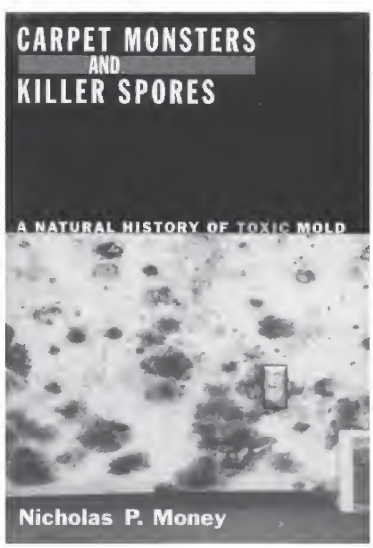
Stachybotrys chartarum—"stachybotrys" for those who prefer the simpler common names—is the most infamous of the black molds, responsible for production of dark scuzz on all manner of surfaces around our homes. It produces toxic spores that have been blamed for human illness and death, and its presence in American homes has prompted thousands of lawsuits against insurance companies and more than one multimillion-dollar settlement, much to the dismay of insurers and delight of attorneys. Seemingly, we have a crisis on our hands or, more accurately, on our walls. But is there really a serious health threat, or is much ado being made about nothing, or at least about not very much? Answering that question is the central focus of Money's new book.

The story has three main parts, two of them closely related and the third not so closely. First, Money introduces us to the biology of stachybotrys, explains how it can affect human physiology and how this has been learned largely through experimentation on other animals, and reviews cases of human suffering in which stachybotrys has been implicated. Here he does an excellent job of providing an objective assessment of the threat that stachybotrys can pose to us.

The second part centers on the legal and legislative fallout from the discovery of molds in homes and the creation of a new industry—mold remediation consultation. Here we learn that even the rich and famous can be targets of these foul fungi: Ed McMahon of *Tonight Show* fame was forced to evacuate to a $23,000-a-month rental house while his Beverly Hills domicile was "remediated," although the cleanup came too late for his unfortunate dog Muffin, who was put to sleep with a severe respiratory illness. Eventual settlement: $7 million. So, what role does our scientific understanding play in these settlements and in the legal decisions that courts render in cases involving harm by molds? I'll not spill the beans.

The third part does not fit comfortably into the flow of the rest of the book. The final chapter, "A Plague upon Your House," switches from stachybotrys to the molds that cause dry rot of the wooden parts of houses. The emphasis here is on the biology of the fungi, and I found the chapter quite interesting reading, even if it did not mesh terribly well with the stachybotrys story.

Money targeted *Carpet Monsters* for three groups of potential readers, hoping that: (1) those who are interested in the safety of their homes will find the book helpful in understanding the science behind the hysteria; (2) those in the legal profession or insurance industry will find some useful quotes for supporting arguments on either side of a case; and (3) other scientists will use the book to further their knowledge of the fungi. To these groups I would add a fourth and fifth: (4) realtors who have to deal with issues of disclosure during real property transactions; and (5) anyone interested in how science is used, misused, or not used by our legal, legislative, and economic institutions.



The observations that Money makes are applicable to many issues beyond the realm of toxic molds, from endangered species protection to funding for space exploration. An interesting, enjoyable, and informative read.

—Steve Trudell
Seattle, Washington

Children's Book Review

It seems that I'm always getting asked if I know of any good books—fiction or nonfiction—that have to do with mushrooms—or fungi, at any rate. (I'm not talking textbooks or guidebooks here; I'm talking about something you can leave on the nightstand or take to the beach, though I do know a few folks who keep a guidebook or two bedside).

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Book Reviews, continued from page 7

Since many of us are likely experiencing cabin fever right now—and it's still too early to get out in the woods in search of the first spring polypores—I will present a review of a brand-new children's book and my Editor's Picks.

These are all books with the common theme of fungi. For this issue all the Picks are works of fiction. As they are nearly all mysteries—and you already know that they involve fungi—I won't spoil the stories with a synopsis. You'll just have to read them for yourself!

I hope many of YOU will be encouraged to submit your own list of favorite picks, fiction or nonfiction, to share with others in upcoming issues of THE MYCOPHILE.

—Britt

The Grim Grotto (A Series of Unfortunate Events, Book 11), by Lemony Snicket; illustrated by Brett Helquist. New York: HarperCollins, 2004. ISBN 064410145

I have to admit that, until the recent release of the movie *Lemony Snicket's A Series of Unfortunate Events* (based on the first four books of the series, I'm told), I'd never heard of these books. Apparently, most children of a certain age have. That includes my niece, who told me all about them over the Christmas holiday. Well, I got wind that the newest installment, *The Grim Grotto,* involves an unfortunate encounter with fungi, and I had to see what all the fuss is about.

The heroes of the series of stories are three precocious children named Klaus, Violet, and Sunny, who lost their parents in a tragic fire and were forced to go live with the dastardly Count Olaf. It seems that all of the ensuing stories chronicle Count Olaf's and the Baudelaire siblings' race to secure the family fortune. All along the way, the children face near doom and, well, unfortunate events that keep the reader enthralled.

The series is definitely written for young readers—ages 9 and older—and, after a quick scan of reviews at Amazon.com, I surmise that the books have quite a loyal following. I'm not ashamed to admit that I have read (as an adult) a number of "children's books" that I enjoyed. I'm not so enthusiastic, however, about *The Grim Grotto*. The story seems repetitive and simple, even for young readers. However, the vast majority of reviews I saw at Amazon rated this book very highly. So, what do I know?

"Dear Reader," the story begins, "unless you are a slug, a sea anemone, or mildew, you probably prefer not to be damp." Things quickly turn miserable for our heroes, for in the deep, dark recesses of a dank cave they are terrorized by a strange (albeit unrealistically fast growing) creature. "'Mycelium,' she said finally, in a faint whisper, and the Baudelaires turned to see that she had spoken the truth. Sprouting out of the sand, quickly and silently, were the stalks and caps of the Medusoid Mycelium . . ." Yikes!

Fortunately, the "she" above is Fiona, another child hero of the story, who, it turns out, is an aspiring mycologist. Fiona uses her knowledge of fungi—and a mycophilic library that seems to be ever at her fingertips—to save the poor Baudelaires. I found myself wishing I had such a collection of mycological texts.

One book in particular comes to mind: *Mushroom Minutiae*. "She brought the book over to the table, and ran a finger down the table of contents while the Baudelaires leaned over to see. 'Chapter Thirty-Six, The Yeast of Beasts. Chapter Thirty-Seven, Morel Behavior in a Free Society. Chapter Thirty-Eight, Fungible Mold, Moldable Fungi. Chapter Thirty-Nine, Visitable Fungal Ditches. Chapter Forty, The Gorgonian Grotto . . .'" You get the picture. The author certainly has a sense of humor.

◆ ◆ ◆

Editor's Picks: Fiction

Acceptable Risk, by Robin Cook New York: G. P. Putnam's Sons, 1994. ISBN 0399139710

Dragon Bones, by Lisa See. New York: Random House, 2003. ISBN 0679463208 (reviewed by Ed Reinert in THE MYCOPHILE, Mar./April '04)

"I" is for Innocent, by Sue Grafton. New York: Henry Holt and Company, 1992. ISBN 0805010858

Editor's Picks for Young Readers

Once upon a Truffle, by Toby Talbot. New York: Cowles, 1970. ISBN 0402140044

The Grim Grotto (see review in column 1)

Wisconsin Foray, continued from page 1

the Mississippi River. They are being offered at the government rate of $92.00 per night, double occupancy, with a 12.5% tax. If you prefer these accommodations, you may contact the hotels directly. Reservation cut-off is June 20. ***Hotels:***

Courtyard by Marriott	Radisson Hotel
500 Front Street	200 Harborview Plaza
La Crosse, WI 54601	La Crosse, WI 54601
(608) 782-1000	(608) 784-6680

You can reach La Crosse (LSE) via Northwest Airlines from Minneapolis/St. Paul, MN (MSP), via American Airlines through Chicago (ORD), or via Midwest Express through Milwaukee (MKE). Madison, WI, is about 120 miles from La Crosse, and Minneapolis about 135 miles if you would like to drive from these cities. We do plan a shuttle from the La Crosse airport to campus.

For more information about our venture into this great new territory, check out Tom Volk's Web site <TomVolkFungi.net> at his NAMA 2005 page.

—Allein Stanley

The North American Mycological Association
NAMA '05
University of Wisconsin at La Crosse
Thursday, July 21st, through Sunday, July 24th, 2005

Ann Bornstein, Registration
336 Lenox Ave., Oakland, CA 94610-4675
<gramma.ann@att.net> • Tel. (510) 839-2487

Complete both sides of this form and send to Ann Bornstein with your check, payable to ***NAMA '05.***

Name(s): _____

Address: _____

City, State, Zip: _____

Phone: _____ Email: _____

Names and club affiliation for name tags: _____

Assign roommate: ❑ Male ❑ Female I want to share a room with: _____

REGISTRATION

Complete package (Floors 1 and 2)	#_____	@ $275.00 ea	$_____
Complete package (Floors 3 and 4)	#_____	@ $250.00 ea	$_____
Single supplement		@ $ 25.00	$_____
(includes 3 nights, 9 meals and all programs)			
Commuters (off-campus)	#_____	@ $180.00 ea	$_____
(includes programs, 6 meals, no breakfasts)			
NAMA Trustees meeting Wed. July 14th	#_____	@ $ 80.00	$_____
Single supplement		@ $ 25.00	$_____
(includes 2 nights, 6 meals)			
NAMA membership (required if not current)	#_____	@ $ 35.00	$_____
Late fee (after June 20)		@ $ 25.00	$_____
Mycology student discount: subtract		–$100.00	$_____
		Total	$_____

Do you require vegetarian meals or have other special concerns? _____

Are you a vendor? Items for sale _____ Amt. of space desired _____

Be sure to sign the Liability Release on the other side of this page. ***We must have a signed release for all adults attending the foray****. Also, please note any areas in which you would like to volunteer.*

LIABILITY RELEASE AND PROMISE NOT TO SUE

I understand that there is some risk in participating in a mushroom foray and conference: all those risks one assumes by being away from home, risks associated with moving about in fields and woods, risks involved in eating wild mushrooms, risks of losing personal property by theft or misplacement, and all other expected and unexpected risks.

In registering for or attending this foray, I agree to assume total responsibility during this event for my own safety and well-being, and that of any minor children under my care, and for the protection of my and their personal property. I release the North American Mycological Association (NAMA), its trustees, officers, employees, contractors, and all other persons assisting in the planning and presentation of this event from liability for any sickness, injury, or loss I or any minor children under my care may suffer during this event or as a result of attending and participating. I further promise not to file a lawsuit or make a claim against any of the persons listed above, even if they negligently cause me or my minor children injury or loss. Finally, I agree to hold NAMA harmless from any liability it may incur as a result of any damages to UW–LaCrosse property that I may cause.

This release and promise are part of the consideration I give in order to attend this event. I understand that it affects my legal rights. I intend it to apply not only to me but to anyone who may have the right to make a claim on my behalf.

Signature 1: _____ Date: _____

Print Name 1: _____

Signature 2: _____ Date: _____

Print Name 2: _____

VOLUNTEER OPTIONS

If you can help in any way, please let us know. The volunteer time of our members is what continues to make NAMA forays such a success and great time for everyone. The coordinator will contact you with details prior to the foray.

❏ Registration
- ❏ Assemble information packets
- ❏ Registration desk:
  - ❏ Thurs. 10 a.m.–1 p.m. ❏ 1 p.m.–4 p.m. ❏ 4 p.m.–6 p.m.

❏ Display & identification area
- ❏ Set up ❏ Assist identifiers ❏ Clean up

❏ Mycophagy
- ❏ Set up ❏ Preparation (Sat.) ❏ Clean up

❏ Raffle
- ❏ Solicit prizes prior to foray ❏ Assist at foray

❏ Other: _____

_____

_____

Fungi in the News, continued from page 6

Harvell feel it may have to do with the emergence of resistance in the sea fan populations. Although the sea fans seem to be recovering rapidly (unlike a number of other coral species), the authors caution that a change in a number of environmental factors could result in a reemergence of the epizootic.

◆

From *Mycologia*: Wang, Hibbett, *et al.* (96[5]: 1015–29) try to make sense of the morphologically variable genus *Sparassis*. (The tasty *Sparassis crispa*, or cauliflower mushroom, is a welcome find for most of us mycophiles!) Also Peintner, Moncalvo, and Vilgalys try to provide a better understanding of the large (more than 2,000 species!) and troublesome genus *Cortinarius* (96[5]: 1042–58).

You've probably heard of the nematode-trapping fungi by now. Most renowned are species of the genus *Arthrobotrys*. (If you aren't familiar with this genus, see below.) These are famous in the agricultural world for destroying plant pathogenic nematodes.

More recently it was found that members of the genus *Pleurotus* and some close relatives, including *Hohenbuehelia* spp., also seem to kill nematodes for their nutritional benefit, presumably because a diet of rotting wood can be a little low in nitrogen.

Well, in the latest issue of *Mycologia* (96[6]: 1218–25) Hong Luo and colleagues from Yunnan University in China demonstrate that *Coprinus comatus* (the shaggy mane) produces structures they designate as "spiny balls" that have nematicidal properties. Following the invertebrate's death, the fungus invades the tissues by way of penetration

Continued on page 13

2005 NAMA Photo Contest Entry Form

Name: _____

Address: _____

_____

_____

Phone: _____ Email: _____

_____

Classification: Limited [ ] Open [ ]

35mm slide contest: If there are not enough entries for two divisions, all entries will be judged in one division.

Digital: There will only be one division.

Entry Titles

Pictorial (Limited to 6 entries)

P–1: _____ P–4: _____

P–2: _____ P–5: _____

P–3: _____ P–6: _____

Documentary (Limited to 6 entries)

D–1: _____ D–4: _____

D–2: _____ D–5: _____

D–3: _____ D–6: _____

Judges' Option (Limited to 3 entries)

JO–1: _____

JO–2: _____

JO–3: _____

Entry fee enclosed: [ ] $4.00 for 35mm slide contest
[ ] $4.00 for digital contest

- *You must submit two entry forms if you enter both contests. Forms may be photocopied or downloaded from the Internet.*
- *Digital images may be emailed to namphocon@yahoo.com or mailed on a CD.*
- *For additional Digital Photo Contest Guidelines and FAQs see http://briefcase.yahoo.com/namphocon.*
- *Mail entry forms, entry fees, slides and/or CD, with check payable to NAMA, to*

John Plischke III—**Slides**
201 Culbertson Avenue
Greensburg, PA 15601
(724) 832-0271
fungi01@aol.com

Damian Pieper—**Digital**
35 Ventura Avenue
Iowa City, Iowa 52245
namphocon@yahoo.com

All entries must be received by June 15, 2005!

Annual Photo Contest Rules

Eligibility: The contest is open to all paid-up NAMA members. Non-members may enter if a separate check for 2005 dues ($35.00) is enclosed with the entry. Slides that have previously won (including Honorable Mention) are not eligible.

Closing Date: All entries must be received by the Contest Director(s) ***on or before June 15, 2005.*** Allow at least one week for mailing.

Subject material: For Pictorial and Documentary, organisms from the Myxomycota (slime molds) and the classes Basidiomycetes and Ascomycetes of the Eumycota ("true fungi") are eligible. For Judge's Option, nearly anything goes as long as 1) the theme relates to fungi and 2) fungi are a key element of the photograph.

Entry Divisions: For the 35mm slide contest, if there are not enough entries for two divisions, all entries will be judged in one division. There will be only one division in the digital contest.

Pictorial: This division is for single photos that illustrate the beauty and variety of fungi in form and color. The objective is a photo suitable for display or illustration in a fine book. Judging criteria include consideration of both technical (focus, depth of field, exposure, lighting, color, absence of distracting elements) and artistic (composition, color, background, lighting) aspects.

Documentary: For single photographs especially suited as illustrations in a field guide or monograph or for use in a lecture. Emphasis is placed on portrayal of key morphological characteristics such that the usefulness of the image as an identification aid is maximized. Subjects may be shot in the field, laboratory, or studio; and the photographer has complete freedom to process, manipulate, or orient the specimen in any desired manner to achieve the goal. Close-ups of single features and photomicrographs are acceptable. Judging criteria will be the same as in the Pictorial category, but they will be of secondary importance to the overall mycological utility of the photo. Accurate identification of the subject will be a consideration.

Judge's Option: For single photos or series that do not fit into Pictorial or Documentary divisions. Examples include time-lapse series, ecological relationships of fungi (e.g. fairy rings), fungi with animals, people enjoying fungi.

Entrant Classifications: Limited or Open classification. *Open* is intended for experienced photographers who are not entering for the first time. *Limited* is intended for the novice. All entries from a person must be in either Limited or Open: no dual classification entrants. Entrants must compete in the Open class if they have won 1st, 2nd, 3rd, or Merit in two or more previous contests. The two classifications are judged separately for the Pictorial and Documentary divisions, and together for the Judge's Option.

Awards: First, 2nd, and 3rd prizes will be awarded in Pictorial and Documentary in both Limited and Open classifications. Additional Honorable Mention awards are given at the judges' discretion up to a maximum of 15% of the entries in that particular category. There will be no ranking in the Judges' Option division, and up to 20% of the entries may be selected. Prizes such as film, subscriptions, book credits, certificates, etc. are awarded, depending on the contest director's resourcefulness and the generosity of donors.

Format: Send color transparencies of any size that will fit into two-inch square plastic or cardboard mounts that function in a standard 80-slide carousel. Glass mounts will not be accepted. Slides may be cropped, retouched, or otherwise reprocessed.

Marking, Listing, and Submitting Slides: Mark each slide with a projection spot at the lower left corner of the mount when viewed right-side up out of the projector. The same side should include the entrant's initials, division initials, and slide number (e.g. OQ K-P-1). Use 1a, 1b, 1c, etc. for sequences. Fill out and submit the Entry Form along with your slides. Send by first class mail. Acknowledgment of receipt will be sent to you. If possible, arrange your packaging so that it can be reused in returning your slides.

Marking, Listing, and Submitting Digitals: What information do you want included in the digital photo's file name? If your computer program permits, we'd like to have at least these three things in your filenames: D (for Documentary), JO (for Judges Option) or P (for Pictorial); the photographer's initials in 3 spaces, followed by the Genus and species of the fungus or myxomycete if you can identify it; your title for the photo (unless it is the same as the previous) and, of course, the file extension. If you have enough space for your full name, the date the photo was taken etc., or you wish to include other info, that is a bonus but not required.

Entry Fee: The entry fee for slides is $4.00. The entry fee for the digital contest is $4.00.

Reproduction: Entry in the contest constitutes the consent of the photographer to allow NAMA to reproduce two copies of each winning slide or digital (including Honorable Mention) for circulation by the Education Committee among the membership and affiliated societies. NAMA also reserves the right to post images of the winning slides or digital on the NAMA website, Namphocon, and in the *Mycophile*. All copyrights remain with the photographer.

Questions? Contact the Chair of the NAMA Photo Committee: John Plischke III, 201 Culbertson Ave, Greensburg PA 15601, (724) 832-0271, email: <fungi01@aol.com>. **See page 11 for Entry Form.**

Fungi in the News, continued from page 11

pegs; after digestion is complete the hyphae grow out of the nematode. This makes me wonder just how many more species of fungi have the ability to catch and kill animals for food!

Also from the MSA comes an account of an "Expedition to a Lost World" in the Mayan Mountains of Belize. Several MSA members—including Tim Baroni, Jean Lodge and Dan Czederpiltz, botanists, zoologists, a *New York Times* reporter and a Mayan guide—traveled by helicopter to the top of the highest peak in Belize to collect numerous undescribed species of flora and fauna.

You can see the article, plus numerous photos in the latest issue of *Inoculum* (55[6]: 14–16). I can't wait to see the photos in person, when Dan Czederpiltz gives a talk on the expedition to the Wisconsin Mycological Society in April!

◆

From the prestigious British journal *Nature*: James Bever and Mei Wang describe the means by which arbuscular mycorrhizal (AM) fungi maintain genetic variability.

From day one, biology students learn that one of the keys to success as a species (evolutionarily speaking) is genetic variability. And genetic variability increases the odds that, following natural selection, individuals will survive long enough to reproduce, thus perpetuating the species for at least one more generation. Furthermore, it's been dogma for decades now that the main reason for sexual reproduction (at least in those organisms that do it) is to bring about genetic variability.

So, what about the organisms that don't reproduce sexually, such as arbuscular mycorrhizal fungi? Bever and Wang show that sex can be unnecessary, at least as far as AM fungi are concerned. Species of the Glomeromycota, also known as AM fungi, maintain high genetic variability in the absence of sexual reproduction by maintaining multiple, genetically diverse nuclei within each cell. Furthermore, these nuclei can be "shuffled" around during hyphal fusion.

And speaking of mycorrhizal fungi, I just got word of the publication of a book that is aimed at making people aware of the types of mycorrhizal associations that occur in nature. The book—*Mycorrhizas: Anatomy and Cell Biology,* by R. Larry Peterson, Hugues B. Massicotte, and Lewis H. Melville—uses almost 300 images, mostly in color, to illustrate all mycorrhizal categories. It is published by NRC Press but available in the United States from CABI Publishing (www.cabipublishing.org/bookshop). Maybe we can get Steve Trudell or James Trappe to do a review?

◆

Can't find *Mycologist* at any local libraries in your area? You're missing out on a terrific journal. Published quarterly by the British Mycological Society (www. britmycolsoc.org.uk), *Mycologist* covers many topics of general mycology and always has terrific review articles.

In the latest issues you can learn about the evolutionary development of structures to trap and infect nematodes within the fascinating genus *Arthrobotrys.* Never seen a nematophagous fungus? Birgit Nordbring-Hertz (18[3]: 125–33) provides numerous illustrations and photos of several species, including *A. oligospora*, famous for creating "lassos" to snare passing soil nematodes.

Issue 18(4) of *Mycologist* features two review articles on the newly emerging oomycete pathogen *Phytophthora ramorum,* the cause of Sudden Oak Death on the West Coast and in Europe, plus diseases of a few other horticultural species (for example, rhododendron).

Additionally, Comandini and Rinaldi trace megafaunal extinctions with dung fungal spores. In efforts to solve the age-old mystery of why the Quaternary period (11,000–50,000 years ago) megafauna suffered a mass extinction, these authors describe the recruitment of an unlikely assistant: a coprophilous ascomycete fungus named *Sporormiella.* No one seems to agree on the cause of the extinction; overkill (and loss of habitat) following a wave a human invasion, or drastic climate change resulting from the last Ice Age. Fossil spores of *Sporormiella* found in soil samples of Madagascar indicate the presence of megafauna until the time of the believed mass extinction. It is at that time that large amounts of charcoal, resulting from human activity, is seen in the soil samples. After several hundred years, spore levels again increased, likely due to the importation of domestic livestock.

In the same issue (18[4]: 165–69), Dorothy McMeekin gives a well-researched account of the perceptions of *Ganoderma lucidum* in Chinese and Western cultures. Included are numerous examples of the fungus (also known as "ling-chi") in Chinese art.

◆

As always, the winter issue of *Mushroom: The Journal of Wild Mushrooming* is packed full of photos, recipes, artwork, crossword puzzles, and stories from the pros and amateurs. Highlights include Brian Akers's article on taking the mystery out of keying *Lepiota* to species. There are several articles on this year's abundant crops of boletes and matsutakes on the West Coast (and incredible photos), plus recipes, and lots more. Do yourself a favor and subscribe! Here's how: go to www.mushroomthejournal.com or at 1511 E. 54th St., Chicago, IL 60615. Tell Leon I sent you!

[*See also the ad on page 14.*]

Mushroom
The Journal of Wild Mushrooming

Other magazines urge you to subscribe, but
we invite you to join friends on what we call "printed forays"!

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- Should you worry about violence from commercial pickers?
- Can you do more with choice edibles than toss them in a sauté pan with butter?
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NAMA Remembers Photographer Emily Johnson,1925–2004

Emily Johnson spent a lot of her time behind a camera and on her belly. As a result, she was one of the most well-respected mushroom and fungi photographers in the eastern U.S.

She also produced distinctive Christmas cards. "I always enjoyed getting Aunt Emily's Christmas cards because she always used her mushroom photographs," said Barbara Bly, a niece. "They were so pretty we'd always save them."

Mrs. Johnson, a 40-year resident of Export, PA, died December 21, 2004. The cause of death was a head injury suffered in a fall. She was 79.

Mrs. Johnson, whose given name was Amelia, set up a photographic darkroom while still in her teens. She spent over 30 years enthusiastically traveling, hiking, and photographing mushrooms and other fungi throughout the eastern United States and Europe. "She . . . would go on nature walks at the Audubon Society's Beechwood Preserve and the Todd Sanctuary near to where she lived," Bly said. "She traveled, too, to seek out mushrooms in marshes and woods."

Mrs. Johnson's photos appeared in numerous books, including the *Audubon Society Field Guide to North American Mushrooms, Mushrooms of Northeastern North America, Mushrooms of the World* coloring book, and *Edible and Poisonous Mushrooms of the World,* published in 2003, which has one of her photographs—a brilliantly red and yellow Caesar's Amanita—on its cover. "Emily was a master at capturing the beauty of mushrooms on film, an art made especially difficult by the low-light conditions of the forest floor where the lovely organisms she passionately sought hid far below the protective canopy of the forest," said David Fischer, co-author of *Edible Wild Mushrooms of North America* and *Mushrooms of Northeastern North America,* both of which contain Mrs. Johnson's photographs.

Tall, slender and quietly modest, she nonetheless gave numerous talks about mushrooming through the Audubon Society and other organizations and participated in NAMA's Teaching Kit program. "She was a wonderful person and a very, very good photographer," said Judy Roger, Executive Secretary of the Mycological Association. "Her lighting techniques made mushrooms stand out and yet still appear natural. She spent a lot of time helping many of us learn how to take photos and critiquing our work."

In February Mrs. Johnson gave her collection of 10,000 mushroom slides, valued at $100,000, to the Department of Biological Sciences at the University of

Cultivated nameko and shimeiji. Photomontage by Britt Bunyard

Oh yes, you can . . . cultivate beauties like these!

Cultivated Pleurotus djamor. *Photo by Ron Spinosa*

Lentinula edodes. *Photo by John Plischke III*

Emily Johnson, continued from preceding page

Arkansas. Some of the slide images will also appear in an upcoming book about mushrooms associated with oak trees in eastern North America.

Another niece, Joanne Klemencic, said her aunt was also one of the earliest organic gardeners and composters. "Her interest in the environment was far-ranging," Klemencic said. "She was always concerned about the land."

Mrs. Johnson is survived by her sister, Caroline Fiore, of Ledgewood, NJ.

Taken from an article by Don Hopey in the 12/30/2004 Pittsburgh Post-Gazette; *used with permission.*

Pleurotus ostreatus. *Photo by John Plischke III*

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Newsletter of the North American Mycological Association
THE MYCOPHILE

Mushroom of the Month: Can you guess what this is?

This month's photo, provided by John Plischke III, is a close-up of *Pleurotus djamor.* See inside for more photos of cultivated mushrooms. We're featuring them this month to develop awareness of NAMA's very own Cultivation Committee. To get involved, come to this year's NAMA Foray in Wisconsin.